

UTAH CITIZENS' ADVISORY COMMISSION ON CHEMICAL WEAPONS DEMILITARIZATION DESERET CHEMICAL DEPOT

THURSDAY,
NOVEMBER 16, 2000 - 6:30 P.M.
TOOELE CITY HALL

MINUTES

Members Present:

BAUER, Dan	Tooele County
BENNETT, John	SAC
DOWNS, Dennis	DEQ
HULLINGER, Sid	Tooele County
SILCOX, Dr. Geoff	U of U
WINTERS, Dr. Suzanne	State Science Advisor

Guests Present:

ALLEN, Trina	Citizen
BALDWIN, G	Citizen
BILLS, Ray	TOCDF
CAMPBELL, Craig	BAH
CLARK, Jim	EG&G
COLBURN, James	EG&G
COSTANZO, Jeri	DCD
DALTON, Darren	PM ACWA
DAVIS, Amy	Citizen
DAVIS, Mike	Citizen
DAVIS, Ray	SAIC
DEPEW, Steve	EG&G
EARLS, Jeff	EG&G
ELKINGTON, Tonya	Citizen
ENTZ, Ron	EG&G
GRAY, Martin	DEQ
GRENIER, Roger H.	TOCDF
GROENEWOLD, Jason	F.A.I.R.
HANSEN, Richard	SAIC
HINTZE, Marx	Citizen
HUFF, Susan	DCD
HUTCHINSON, Phil	EG&G
JACKSON, David	TOCDF
JOHNSON, Carol	Citizen
JOHNSON, Darrell	Citizen
JOHNSON, Patty	EG&G
JOHNSON, Susanna	Sec. CAC

JONES, Donald	DCD
KING, Cindy	Utah Sierra Club
LAMB, Lorrie	Citizen
LEETHAM, Amy	Tooele ORO
LEWIS, Mike	Army
LOCKE, Mary	EG&G
MADDEN, Tim	Tooele ORO
MADDOX, Jack	EG&G
McCLATCHEY, Sean	Citizen
MESESAN, Mark	EG&G
MILLER, Kimberly	Tooele ORO
MONTIJO, Doris	EG&G
MORSE, Mark	Battelle
NG, Deborah	DEQ
OLIVER, Harold	DCD
OWENS, Doug	Parsons, Behle & Latimer
PATE, Col. Ed	DCD
RASMUSSEN, Kaylynn	EG&G
RAY, Edwin	Citizen
RAY, Gaylon	DCD
RAY, R	Citizen
ROWE, Mike	EG&G
SAGERS, Kari	Tooele Co. Emergency
SAUPE, Mike	TOCDF
SCHMERKER, Jeff	Tooele Transcript
SNELL, Dick	EG&G
SNOW, Karla	Citizen
SNOW, Kris	SAIC
SNOW, Stan	Citizen
THOMAN, Larry	Citizen
VanNOY, Heidi	CAMDS
WALLACE, John	TOCDF
WALTERS, Clara	GOPB
WARBY, Clint	Tooele ORO
WIDMEYER, Marjorie	Citizen
WILCOX, Jim	Citizen

WELCOME/APPROVAL OF MINUTES - Chairman Dr. Suzanne Winters

Dr. Winters called the meeting to order and welcomed all of those in attendance. A quorum was not present, therefore the October minutes will be reviewed for approval at the next meeting.

David Jackson, the Site Project Manager for the Tooele Chemical Agent Disposal Facility, is retiring at the end of this year. Dr. Winters read a proclamation from Governor Leavitt in appreciation of Mr. Jackson's contribution and service to the citizens of the State of Utah.

Dr. Winters reported that the comment period for the Mitretek Phase I Report has been extended to November 30th. She encouraged anyone interested in commenting, to do so by that time.

In the recent election, Gary Griffith was not reelected to the County Commissioner. After discussion it was recommended that Dr. Winters contact Mr. Griffith and assess his interest in continuing as a citizen representative on the CAC. Also, the Tooele County Commission will be contacted to see if they are interested in having a representative on the CAC.

FOLLOW-UP ITEMS

Resolution - Dr. Suzanne Winters

Dr. Winters reviewed the resolution passed by the CAC during the October CAC meeting. The resolution supports Governor Leavitt's position on prohibiting the import of chemical weapons or agent for disposal at the Tooele facilities. Copies were sent to Mitretek, PMCD, the Anniston Star, and Inside Washington, a newspaper that covers the chem demil program, at their request.

Non-Stockpile Core Group - Dr. Suzanne Winters

At the last CAC meeting, Dr. Winters was asked to contact the Keystone Center to see if it would be appropriate for Utah to have a member on the Non-Stockpile Core Group. The Keystone Center is responsible for administering the Non-Stockpile Core Group. Dr. Winters spoke with Jenesse Brewer and Christy Parker and put on a strong case for why Utah should participate in that core group. A significant percentage of the non-stockpile is in Utah and Utah plays a significant support role in testing technologies for non-stockpile disposal. It was explained to Dr. Winters that, at the present time, this is a policy level group and they do not want to have site specific representation on that group. Dr. Winters will be invited to attend the next meeting in January or February. She will learn what they are doing and present what Utah perspectives and input might be from the policy level. At that time, they will evaluate whether or not to invite a member from the Utah CAC.

ACWA Demonstration “Unusual Events” - Darren W. Dalton

At the last CAC meeting, Rogier Grenier asked the CAC about “Unusual Events” regarding the ACWA demonstration program and the testing of alternative technologies. Dr. Winters invited Darren Dalton, Demonstration Program Lead, PM ACWA Technical Team, to speak to the CAC regarding this matter.

Mr. Dalton gave an overview of the ACWA program. Last year three technologies were selected and taken to Demonstration I. Those technology providers are Burns and Roe, General Atomics and Parsons/Honeywell. This year, they have completed demonstrations for AEA Technology, Teledyne Commodore and Foster Wheeler/Eco Logic. The technologies by General Atomics and Parsons/Honeywell have proven to be successful and viable for a total solution for the destruction of assembled chemical weapons. Both of those technologies have moved into engineering/design phase. The purpose of the engineering/design phase is to prepare a preliminary design, life cycle, and realistic schedule for destruction at Pueblo and Blue Grass.

Mr. Dalton gave a summary of each of the six technology demonstrations. He added that they anticipated problems with the demonstrations.

- ! The Burns and Roe, Plasma Arc Demonstration, was conducted in 1999. This technology will not be considered further as a viable total solution for the demilitarization of all assembled chemical weapons. During the testing of this technology, there was a small fire which was quickly extinguished. Of more serious nature, was steam excursion pressure. The steam became like a pressure cooker and buckled the lid of the reactor which caused damage to the equipment.
- ! General Atomics, neutralization followed by Supercritical Water Oxidation (SCWO), was part of the ACWA Demonstration I in 1999 at Dugway Proving Ground and CAMDS. This was determined to be a viable solution for the demilitarization of all assembled chemical weapons. Technologies now in the engineering/design phase at Dugway. During the testing at CAMDS, there was a small fire of the Energetics Rotary Hydrolyzer. It was a small fire and General Atomics has redesigned their system.
- ! Parsons/Honeywell, neutralization followed by biotreatment, was also demonstrated in 1999 at Dugway and CAMDS. This technology has been considered a solution for demilitarization of chemical weapons with mustard agent only. It is not considered viable for assembled chemical weapons with nerve agent at this time. During the testing of this technology, there was a small fire with no damage to the facility or injuries to workers.
- ! The Teledyne Commodore, Solvated Electron Technology, was demonstrated as part of the ACWA Demonstration II in 2000 at Dugway and CAMDS. Significant cost and schedule issues prevented the completion of testing. There were three “Unusual Events”

during the testing. They were: a sulfuric acid leak and exposure and injuries to workers at CAMDS; ammonia leaks at Dugway; and energetic ignition of a M61 rocket and subsequent fire at Dugway.

- ! The AEA Technology, Silver II Electrochemical Oxidation, was demonstrated as part of the ACWA Demonstration II at Aberdeen Proving Ground, Maryland. There were no "Unusual Events".
- ! The Foster Wheeler/Eco Logic technology, neutralization followed by SCWO and GPCR, was also demonstrated at Aberdeen Proving Ground and Dugway. There were no "Unusual Events" during their testing.

Mr. Dalton ended his presentation by discussing the costs of Demonstration I and II. He provided a chart of those costs. (Attachment 1).

Questions

Dennis Downs: Could you please clarify why Teledyne Commodore could not complete their testing and does that mean that they are no longer in consideration as an alternative technology?

Darren Dalton: At this point we are conducting a final evaluation on Teledyne Commodore. They are at a disadvantage because they did not conduct agent testing. We anticipate that we will be unable to validate the technology.

Dan Bauer: At this point, do you have any idea of the magnitude of scale up for neutralization? In other words how many gallons of caustic would be used for every pound of agent?

Darren Dalton: I don't have that information with me but will make sure that the commission gets it. The support contractors have been working on the inputs and outputs, what goes into the plant vs. what goes out.

Dan Bauer: Is it a mass balance?

Darren Dalton: That is correct. Mass balances are required from technology providers. We have also prepared mass balances by taking an independent look at each process. As their design matures, we will be looking at mass balance to ensure that it is the most accurate.

Dr. Winters: Danny, I have a chart that was presented at the last ACWA meeting will be happy to provide it to you.

Roger Grenier: As I understand it, the supercritical water oxidation process has experienced repeated breaches of containment. I realize that during normal operational conditions, personnel will not be in proximity to the process vessels, but the question remains of adequacy of the materials of construction of the reactors and associated piping. Normally, platinum is the material of last resort for protection of a substrate in pressure vessels because of its exorbitant cost (current platinum spot price is \$584.70 per troy ounce). If platinum lined reactor vessels are unable to safely contain this process, what is the plan for adequate containment?

Darren Dalton: The SCWO reactor that you are talking about is from the General Atomics process. The other SCWO reactor that Foster Wheeler provides is a slightly different design. I

realize that we are having difficulty with the SCWO reactor from General Atomics but we are working with them to determine the corrective actions prior to full scale. The SCWO will be in a contained vessel.

Roger Grenier: So you are primarily relying on your secondary containment?

Darren Dalton: That is correct.

Roger Grenier: There seems to be a disconnect between the Arthur D. Little characterization and the NRC Report of products and by-products of hydrolysis as a function of extended reaction. I would like to quote their report verbatim: "*Simultaneous processing of different types of energetic materials should not be performed until there is substantial evidence that the intermediates formed from the hydrolysis of aromatic nitro compounds will not combine with the M-28 propellant additives or ordnance fuse components to form extremely sensitive explosives such as lead picrate.*" My question is: What actions are underway to more accurately define and characterize these reaction products? When will this characterization be complete?

Darren Dalton: Right now we have a number of Army explosives experts involved. All are doing a substantial amount of work in the area of energetics hydrolysate. A number of issues the NRC brought up regarding energetics will be completed in December of this year. We took to heart the NRC recommendations and worked closely with the Army energetics sites to address all issues and solve the problems.

Roger Grenier: A concern remains that the duration of the ACWA demonstrations may have been too short to characterize the steady-state operational behavior, the buildup of materials in recycling loops, their characterization and potential reaction scenarios, and problems with corrosion in containment vessels and process piping. What is the current plan to integrate the isolated portions of proposed ACWA technologies to obtain these data? When is it anticipated that this effort will be complete?

Darren Dalton: The purposes of demonstrations were rather simple, to validate the technology. In many cases, it meant a couple of hours to prove that the concepts work. The purpose of engineering/design studies is to gain information that we need for a full scale design. That includes long term operations. For example, the biotreatment system ran for demonstration purposes for twenty days. For the engineering design, we just completed a continuous three to four-month run. For the SCWO units, we did a couple of ten hour tests but for the engineering design, we did a five hundred-hour test.

EPA Protocol and Sample Chain of Custody - Trina Allen

During the last CAC meeting there was a request for the EPA protocol and sample Chain of Custody documentation for samples taken by Jason Groenewold and Trina Allen. These samples were taken from munitions that have been processed and sold to a scrap metal dealer. The munitions were stored on a site by I-15. The samples were sent to a lab for total metal analysis and toxicity characteristics. These samples were found to have large amounts of lead in them.

Ms. Allen said that the sampling method was in accordance with SW 846, which is a guidance document and not a requirement. She said the samples were collected in a clean plastic zip lock

bag. They were then put into a laboratory glass container and sent to the lab. Ms. Allen also took samples of some contaminants that were on the outside of the munition carcasses. She said it was clear that there were some lead paint chips that had accumulated from the different munitions. Ms. Allen gathered samples from the paint chips and from the soil around the stacked ton containers. She also took samples from mortar shells that were lying on the ground.

Ms. Allen gave copies of the Chain of Custody to the CAC. (Attachment 2)

Summary Stockpile Report - Col Ed. Pate

Col. Pate, Commander of Deseret Chemical Depot, stated that the only significant event at DCD this month was the Nov. 7 Restoration Advisory Board Meeting. The meeting primarily focused on looking at the environmental baseline of the depot to determine where they are targeting in the restoration of the depot.

Since the last CAC there have been 41 alarms. The average time to notify the county has been 5 minutes. Of the 41 alarms, 10 were found in leaker isolation operations; two were found during onsite container shipment to TOCDF; the rest were non-confirmed. Col. Pate showed the CAC a chart of leaker activities. (Attachment 3)

PROGRAM STATUS - David Jackson

Dave Jackson, Site Project Manager, gave an update on the chem demil program sites:

- ! The Aberdeen facility is approximately 10% complete. The scheduled completion is for July 2003.
- ! The construction on the Anniston facility is 93% complete. There are pre-commissioning activities in several structures. Systemization is beginning in the systems which are finished. Operations are scheduled to begin in the 3rd quarter of 2002.
- ! At Blue Grass, schedules and spending plans are being developed. Funding is being sought to initiate RCRA/EIS design, EIS/RCRA/air permit applications, Procurement planning and site support. The Pentagon has received a Notice of Intent to begin the EIS.
- ! Johnston Atoll will finish destroying the munitions and bulk containers at the end of this month (November). The process of closing the facility will then be started .
- ! At the Newport facility, the contracts have been let on underground utilities and concrete work. The construction is scheduled to be completed in 2002.
- ! The Pine Bluff facility is 33% complete and operations are scheduled to begin in late 2003.

- ! At Pueblo, the Site Specific Environmental Impact Statement (EIS) Record of Decision (ROD) is due August 2001. Work continues on environmental design for the Enhanced Reconfiguration Facility (ERF). The ERF is an attempt to remove the explosives from the munitions prior to the arrival at the demil plant. The Request for Proposals are scheduled to be issued January 2001 with submission due May 2001.
- ! The Umatilla facility is 87% complete. Construction is scheduled to be completed in the summer of 2001 with operations beginning in the fall of 2002.

Mr. Jackson concluded his presentation with the status of agent destruction of the entire program (Attachment 4). He added that Utah has two thirds of the nations stockpile of sarin. As Utah destroys the sarin, the nation's stockpile drops drastically.

CAMDS UPDATE - Don Jones

Don Jones reported that CAMDS is engaged in the VX Sampling Project. The purpose is to characterize the chemical agent within the VX stockpile before VX treatment operations begin. The facility preparation is complete. The Division of Solid and Hazardous Waste Work Plan approval is in process. The metals analysis validation is in process. CAMDS personnel plan will begin sampling the tons in January 2001. The report is expected to be completed in April 2001.

The Continuous Steam Treater (CST) Demonstration Test is being conducted at CAMDS for the ACWA program. The CST is designed to achieve 5X conditions for plant process materials (wood, DPE, charcoal) by heating materials to a minimum 1,000° F for at least 15 minutes. The test is expected to be completed by December 2000.

Work is ongoing on a Projectile Drain and Washout (PDW) procedure for ACWA. The purpose is to remove the explosives from 4.2" HD mortars. At present, there is no equipment on site.

Questions

Jason Groenewold: What will you use for the washout, water or a caustic material?

Don Jones: It will be a caustic material. We are in the planning stages, so I cannot tell you what it is exactly.

PLANT STATUS - Mike Rowe

Mike Rowe, General Manager of EG&G, gave the plant status at TOCDF. (Attachment 5). He said that they have had one Action Level 3. It was a small explosives fire on the feedgate into the DFS. That gate is monitored by an ultra violet fire detector sensor. It observed the fire and set the alarm system off. The entire event was seconds in duration. There was no damage to the

equipment. The frequency of the preventive maintenance for cleaning of this particular device has been increased to ensure that all residue is removed prior to ignitions in the future. Mr. Rowe said that actuation of the fire protection system automatically classifies the action as a Level 3 with a subsequent investigation.

Mr. Rowe concluded his presentation by informing the CAC that he will be taking an assignment elsewhere with EG&G. He thanked the CAC for the forum that they provide and he appreciated being part of it, even though parts of it were not always pleasant. Dr. Winters thanked Mr. Rowe and wished him well in his new assignment.

Questions

Sid Hullinger: Do you know where you are going?

Mike Rowe: No, I do not.

Dr. Winters: Do you know when a new General Manager will be named for TOCDF?

Mike Rowe: No, but as soon as we have a process we will inform the CAC.

Jason Groenewold: Have there been any problems with material jamming in the feed chutes or any problems with the feed gates jamming?

Mike Rowe: I don't think so. I have been away for a week and so I will have to default. We are using the new devices that we installed and they seem to be functioning as anticipated.

UPDATE ON MERCURY IN TON CONTAINERS - Mike Saupe

Mike Saupe reported that in late January of this year, a light ton container came into the plant. As part of RCRA requirements, a dip stick was inserted into the container to ensure that it was properly drained. As part of the process, a sludge layer was found on the bottom causing stoppage of processing of the ton containers from this lot. The sludge was sampled and analyzed for metals. A high concentration of mercury was found. DSHW was notified and proceeded with an evaluation.

Mr. Saupe said that during the past several years, a comprehensive sampling program to characterize agent GB has been developed. Seven different ton container subgroups were identified. Agent samples were collected and tested from each subgroup. Ultrasound was used to test for sludge and solids. Sludge was identified by ultrasound in only one of the sampled ton containers. From that sampling program and the agent trial burns, mercury has been found to be present in low concentrations, in not only ton containers, but other types of munitions as well.

Out of 4,912 processed ton containers, only five contained residue not easily removed. All of the residue was removed before off-site shipment. Mr. Saupe said that based upon the number of samples, the sludge layer is an insignificant problem in the general stockpile.

As part of this discovery in January, additional plans for selecting and testing agent and sludge in

coordination with DSHW have been developed. Portable Isotopic Neutron Spectrometry (PINS) is used as a means to examine ton containers in the stockpile associated with mercury. The subgroup of most concern is the reconditioned ton containers. Mr. Saupe said little information on the container histories is available. The preliminary PINS data suggest the presence of mercury in 42% of the GB-reconditioned ton containers. PINS results will be validated by collecting and testing ton container liquid and sludge samples. The sludge samples will be collected and analyzed for metals if sludge is present in the ton containers. The data are expected to confirm that mercury, if present in the ton container, is located in the sludge. Metals concentrations will be compared to the PINS results for each ton container.

The current plan at the facility is to investigate the possibility of installing automated sampling equipment to test drained ton containers for metals in the residual agent heel. Also, the use of a Continuous Emission Monitoring System (CEMS) to test the metals content in stack emissions is under consideration. A permit modification is anticipated to be required with a public comment period.

Questions

Dennis Downs: Do you have any idea of what the source of the mercury would be?

Mike Saupe: There are several possibilities but we do not know for sure.

Cindy King: What is the current mercury level that is allowed to be emitted out of the stack?

Mike Saupe: I do not know the numerical value. It was established based upon the Risk Assessment.

Cindy King: Does anyone know what was on the Risk Assessment?

Dick Snell: We do not have a number in our permit right now but there is a table that DSHW issued that had limits on metal emissions.

Dr. Winters: Marty, can we have this addressed at our next meeting?

Marty Gray: Yes.

Jason Groenewold: What is the status for processing ton containers right now? What are the plans to deal with the sludge that you remove from the ton containers? Can the state explain why the original permit modification was denied?

Mike Saupe: The state has rescinded their approval of processing the ton containers in question, pending resolution of the issue.

Marty Gray: There was no permit modification application submitted. It was a temporary authorization that was submitted to us to complete the sampling and characterization of the tons and to treat the sludge from those tons. Our rules require that for this type of issue, a permit modification accompany the temporary authorization. We denied the authorization and are waiting for the new modifications.

DSHW UPDATE/HEALTH RISK ASSESSMENT UPDATE - Marty Gray

Mr. Gray updated the CAC on the Risk Assessment Protocol. He said that the comment period

was from October 9 - November 8. (The CAC was given copies of the comments) At the request of the CAC, DSHW developed a fact sheet and mailed it to the members. Twenty percent of the comments were applicable and based upon those, DSHW will revise the protocol. Twenty percent of the comments were directly related to the EPA Risk Assessment Guidance that dealt with certain default parameters. Mr. Gray said those comments should be addressed to the EPA and not to the state.

The next step is to hand the comments to the DSHW contractor. DSHW will have written responses for each of the comments. The protocol will be revised based upon the appropriate comments. When the final protocol is released, it will include the comments and the responses to those comments. Once the final protocol is complete, the risk assessment will go forward. When the final risk assessment is complete, public information meetings will be held.

ACWA DIALOGUE UPDATE - Cindy King & Dennis Downs

On November 1 - 3, the ACWA Dialogue meeting was held in Pueblo, Colorado. Dr. Suzanne Winters, Dennis Downs and Cindy King attended the meeting. Cindy King said that there were two significant areas of discussion. One dealt with the report to Congress of the possibility of alternative technologies being used for destruction of chemical weapons, secondary waste and the possibility of retrofitting parts of current facilities, if it is approved. The other area of significant discussion, was whether or not the last ACWA Dialogue meeting will be held in January 2001. Ms. King said the issue is the Congressional intent language in the public law 104-208 which requires the ACWA Dialogue to see the data and provide input on the pilot demonstrations. The EPA has reviewed the various ACWA technologies and is encouraged by the applicability to treat a wide assortment of hazardous waste.

Dennis Downs talked about the future of the ACWA Dialogue. He said there is a meeting scheduled at the end of January. There have been some proposals, mostly by the Army, that this be the last formal national Dialogue meeting. The proposal would be to have local Dialogue- like groups at each of the sites around the country addressing specific issues associated with whatever technology is used at those sites. There is part of the Dialogue that would like to see the national Dialogue continue for information dissemination as these alternative technologies continue to be tested. Mr. Downs said that he has found the Dialogue to be a very productive process as he has met his counterparts from all parts of the country.

Dr. Winters concurred with Mr. Downs and Ms. King. She also has found the Dialogue to be educational, informative and productive.

Questions

Jason Groenewold: When will the report of the second phase of testing be going to Congress?

Cindy King: One report will be going to Congress in December with a Supplemental Report in

March.

CITIZEN CONCERNS

Jason Groenewold brought an incident in March of this year to the attention of the CAC. A ton container which was not properly drained, was fed into the incinerator. There were no upset conditions from the overfeed. Mr. Groenewold presented a copy of a letter (Attachment 6) that was sent to DSHW from TOCDF that explained the incident. Mr. Groenewold is concerned about the issue of accountability and if the Army can be believed. Dick Snell, the Environmental Manager of EG&G, replied that they have not processed a ton container with a greater than 5% heel. Dr. Winters said that this issue will be put on the agenda as a follow up item at the next meeting.

Kaylynn Rasmussen wanted to applaud JACADS for accomplishing their mission. She added that TOCDF has safely destroyed more munitions than were destroyed at JACADS

SCHEDULE OF NEXT MEETING

The next CAC meeting is scheduled for January 18, 2001 at the DEQ building in Salt Lake City.

The meeting was adjourned at 8:05 p.m.